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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------|------------------|
| 10/629,374 | 07/28/2003 | Theodore A. Newby | H0005044 | 6248 |
| 7590 | 05/20/2005 | | EXAMINER | |
| HONEYWELL INTERNATIONAL, INC. Law Dept. AB2 P.O. Box 2245 Morristown, NJ 07962-9806 | | | DATSKOVSKIY, MICHAEL V | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2835 | |
| DATE MAILED: 05/20/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/629,374 | NEWBY, THEODORE A. |
| | Examiner | Art Unit |
| | Michael V. Datskovskiy | 2835 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 July 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-11 and 16-18 is/are rejected.
 7) Claim(s) 12-15 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 28 July 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>03/07/2005</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Drawings

1. Figures 1A and 1B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.
3. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: Independent claim 6 requires leads to be located between a wiring board and a heat sink, which is

contradictive to limitations of the claim 11 where said leads are claimed to be attached to an upper surface of the wiring board facing away from the heat sink.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-11 and 16-17 (claim 11 as best understood by examiner) are rejected under 35 U.S.C. 102(e) as being anticipated by Hochstein (US Patent 6,428,189). Hochstein teaches an electrical assembly (an electrical optical array), comprising: a wiring board 12 having a plurality of through openings 32; a plurality of contact pads 14 on a bottom side of said wiring board 12; a plurality of LEDs 24 each coupled in one of said openings 32 and having a bottom surface exposed through the bottom side of the wiring board 12; at least one electrical lead 26 extending from each of the LEDs 24 to at least one of said contact pads 14; and a heat sink 30 thermally coupled to said bottom surface of each of said LEDs 24. Hochstein teaches furthermore a thermally conducting layer 36 between the bottom of the LED and the heat sink 30, or a thermally conductive and electrically insulating layer between whole wiring board and the heat sink (col.3, lines 55-63). While Hochstein discloses limitations of claims 1-5 either in the

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embodiment shown in Fig. 1 or in Figure 3, limitations of the claims 6-10 are disclosed only in the embodiment shown in Fig.3, and limitations of the claim 11 are disclosed only in Fig. 1. Regarding to the claims 16-17: The method steps are inherently necessitated by the device structure as Hochstein discloses it, and also are described in col. 4, lines 5-61.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hochstein.

Hochstein teaches all the limitations of the claim except said wiring board is clamped to said heat sink. Official Notes is taken that it is well known in the and would have been obvious to one ordinary skilled in the art at the time invention was made to fix a circuit board to a heat sink by clamping them together.

Allowable Subject Matter

9. Claims 12-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: The wiring board has a first portion closer to the heat sink on which are located

contact regions to which the leads attach(ed) and a second portion overlying the first region (portion) at least in part and wherein the leads are captured between the first or second portions and the heat sink. (Proposed amendments to fix probable errors are shown in parenthesis).

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Biebl et al (US Patent 6,375,340); Lin et al (US Patent 6,864,513); Hochstein et al (US Patent 6,582,100); Hochstein (US Patent 6,517,218); Hochstein (US Patent 6,045,240); Hochstein (US Patent 5,857,767); Doiron et al (US Patent 5,698,866); Durocher et al (US Patent 6,614,103) and Utsunomia (Japan Patent JP403078247A).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V. Datskovskiy whose telephone number is (571) 272-2040. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael V Datskovskiy
Primary Examiner
Art Unit 2835

05/17/2005